

DOCKET NO.: M0925.70108US00

UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Yet-Ming Chiang et al.  
Serial No.: 10/021,740  
Confirmation No.: 1110  
Filed: October 22, 2001  
For: RETICULATED AND CONTROLLED POROSITY  
BATTERY STRUCTURES

Examiner: John S. Maples  
Art Unit: 1745

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

The undersigned hereby certifies that this document is being placed in the United States mail with first-class postage attached, addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the 15 day of June, 2005.

Signature

MAIL STOP AMENDMENT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

STATEMENT FILED PURSUANT TO THE DUTY OF  
DISCLOSURE UNDER 37 C.F.R. §§1.56, 1.97 AND 1.98

Sir:

Pursuant to the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, the Applicants request consideration of this Information Disclosure Statement.

PART I: Compliance with 37 C.F.R. §1.97

This Information Disclosure Statement has been filed more than three months after the filing date of this application and after the mailing date of the first Office Action, but before the mailing date of either a final action under 37 C.F.R. §1.113 or a Notice of Allowance under 37 C.F.R. §1.311, or an action that otherwise closes prosecution in this application. The fee of \$180.00 as set forth in 37 C.F.R. §1.17(p) is enclosed.

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PART II: Information Cited

The Applicants hereby make of record in the above-identified application the information listed on the attached form PTO-1449 (modified). The order of presentation of the references should not be construed as an indication of the importance of the references.

PART III: Explanation of Non-English Language References and Remarks Concerning Other Information Cited

The following is a concise explanation of the relevance of each non-English language reference listed on the attached form PTO-1449 (modified):

An English abstract of JP04-58455 is provided.

PART IV: Remarks

Documents cited anywhere in the Information Disclosure Statement are enclosed unless otherwise indicated. It is respectfully requested that:

1. The Examiner consider completely the cited information, along with any other information, in reaching a determination concerning the patentability of the present claims;
2. The enclosed form PTO-1449 be signed by the Examiner to evidence that the cited information has been fully considered by the Patent and Trademark Office during the examination of this application;
3. The citations for the information be printed on any patent which issues from this application.

By submitting this Information Disclosure Statement, the Applicants make no representation that a search has been performed, of the extent of any search performed, or that more relevant information does not exist.

By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, material to patentability as defined in 37 C.F.R. §1.56(b).

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By submitting this Information Disclosure Statement, the Applicants make no representation that the information cited in the Statement is, or is considered to be, in fact, prior art as defined by 35 U.S.C. §102.

Notwithstanding any statements by the Applicants, the Examiner is urged to form his own conclusion regarding the relevance of the cited information.

An early and favorable action is hereby requested.

Respectfully submitted,

By:



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Docket No.: M0925.70108US00  
Date: June 15, 2005  
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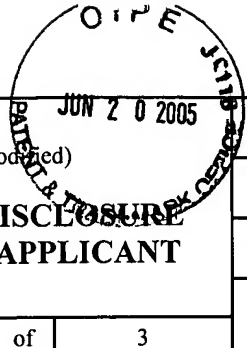
FORM PTO-1449/A and B (Modified)

# **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

<p>Sheet 1 of 3</p>				APPLICATION NO.: 10/021,740	ATTY. DOCKET NO.: M0925.70108US00
				FILING DATE: October 22, 2001	CONFIRMATION NO.: 1110
				APPLICANT: Yet-Ming Chiang et al.	
				GROUP ART UNIT: 1745	EXAMINER: John S. Maples

## **U.S. PATENT DOCUMENTS**

Examiner's Initials	Cite No.	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication or of issue of Cited Document MM/DD/YYYY
		Number	Kind Code		
		4,245,016		Rampel	01/13/1981
		4,668,596		Shacklette et al.	05/26/1987
		4,889,777		Akuto	12/26/1989
		5,187,209		Hirai et al.	02/16/1993
		5,213,895		Hirai et al.	05/25/1993
		5,436,093		Huang et al.	07/25/1995
		5,624,605		Cao et al.	04/29/1997
		5,677,080		Chen	10/14/1997
		5,714,053		Howard et al.	02/03/1998
		5,733,683		Searson et al.	03/31/1998
		5,759,714		Matsufuji et al.	06/02/1998
		5,789,100		Burroughs et al.	08/04/1998
		5,834,136		Gao et al.	11/10/1998
		5,897,522		Nitzan	04/27/1999
		5,902,689		Vleggar et al.	05/11/1999
		5,925,283		Taniuchi et al.	07/20/1999
		6,096,454		Tran et al.	08/01/2000
		RE 36,843		Lake et al.	08/29/2000
		6,120,940		Poehler et al.	09/19/2000
		6,136,476		Schutts et al.	10/24/2000
		6,174,623		Shackle	01/16/2001
		6,300,016		Jan et al.	10/09/2001
		6,306,540		Hiroi et al.	10/23/2001
		6,337,156		Narang et al.	01/08/2002
		6,528,033		Barker et al.	03/04/2003
		2001/0005558		Yoshioka et al.	06/28/2001
		2001/0005562		Yoshioka et al.	06/28/2001
		2001/0007726		Yoshioka et al.	07/12/2001
		2002/0015278		Fukuyama et al.	02/07/2002
		2002/0074972		Narang et al.	06/20/2002
		2002/0192137		Chaloner-Gill et al.	12/19/2002
		2002/0195591		Ravet et al.	12/26/2002
		2003/0082446		Chiang et al.	05/01/2003
		2003/0099884		Chiang et al.	05/29/2003



FORM PTO-1449/A and B (Modified)

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STATEMENT BY APPLICANT**

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GROUP ART UNIT: 1745

EXAMINER: John S. Maples

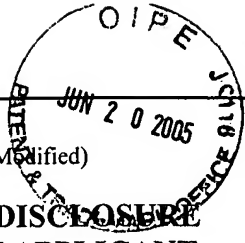
Sheet 2 of 3

**FOREIGN PATENT DOCUMENTS**

Examiner's Initials	Cite No.	Foreign Patent Document			Name of Patentee or Applicant of Cited Document (not necessary)	Date of Publication of Cited Document MM/DD/YYYY	Translation (Y/N)
		Office/ Country	Number	Kind Code			
		CA	2,270,771		Hydro-Quebec	10/30/2000	Y
		EP	1 231 651		Sanyo Electric Co., Ltd.	08/14/2002	
		EP	1 231 653		Sanyo Electric Co., Ltd.	08/14/2002	
		JP	04-58455			02/25/1992	Abstract

**OTHER ART — NON PATENT LITERATURE DOCUMENTS**

Examiner's Initials	Cite No	Include name of the author (in CAPITAL LETTERS) title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, relevant page(s), volume-issue number(s), publisher, city and/or country where published.	Translation (Y/N)
		ALESHIN, A.N. et al., "Transport Properties of Poly (3,4-Ethylenedioxythiophene)/Poly (Styrenesulfonate)," Synthetic Metals 94:173 (1998).	
		ARBIZZANI et al., "Li <sub>1.03</sub> Mn <sub>1.97</sub> O <sub>4</sub> Surface Modification by Poly (3,4-Ethylenedioxythiophene)," Poster presented at 11 <sup>th</sup> Intl. Meeting on Lithium Batteries, June 23-28, 2002, Monterey, CA.	
		ARMAND, M.B. et al., "Poly-Ethers as Solid Electrolytes," Proceedings of the Intl. Conference on Fast Ion Transport in Solids, Electrodes and Electrolytes," Lake Geneva, WI, 131-136 (1979).	
		CHIANG, Y. et al., "High Capacity, Temperature-Stable Lithium Aluminum Manganese Oxide Cathodes for Rechargeable Batteries," Electrochem. and Solid-State Lett. 2(3):107 (1999).	
		ELLIOTT, S.R., "Physics of Amorphous Materials," Longman Group Limited.	
		FRENCH, R.H. et al., "Full Spectral Calculation of Non-Retarded Hamaker Constants for Ceramic Systems from Interband Transition Strengths," Solid State Ionics 75:13 (1995).	
		FRENCH, R.H. et al., "Origins and Applications of London Dispersion Forces and Hamaker Constants in Ceramics," J. Am. Ceram. Soc. 83(9):2117 (2000).	
		GHOSH, S. et al., "Supramolecular Self-Assembly for Enhanced Conductivity in Conjugated Polymer Blends: Ionic Crosslinking in Blends of Poly(3,4,-Ethylenedioxythiophene)-Poly(Styrenesulfonate) and Poly(vinylpyrrolidone)," Adv. Mater. 10(14):1097 (1998).	
		GRAY, F.M., "Solid Polymer Electrolytes," VCH Publishers Inc. (1991).	
		HART, B. W., et al., "3-D Microbatteries," Electrochemistry Communications 5:120 (2003).	
		IDOTA, Y. et al., "Tin-Based Amorphous Oxide: A High-Capacity Lithium-Ion-Storage Material," Science 276:1395 (1997).	
		KUWABATA, S. et al., "Charge-Discharge Properties of Composites of LiMn <sub>2</sub> O <sub>4</sub> and Polypyrrole as Positive Electrode Materials for 4 V Class of Rechargeable Li Batteries," Electrochimica Acta 44:4593 (1999).	
		LIMTHONGKUL, P. et al., "Nanocomposite Li-Ion Battery Anodes Produced by the Partial Reduction of Mixed Oxides," Chem. Mater. 13:2397 (2001).	
		LONG, J.W., et al., "Three-Dimensional Battery Architectures," Chem. Rev. 104:4463 (2004).	
		MILLING, A. et al., "Direct Measurement of Repulsive Van Der Waals Interactions Using an Atomic Force Microscope," J. Colloid & Interface Science 180:460 (1996).	
		NEUMANN et al., "Negative Hamaker Coefficients," Colloid and Polymer Science 257(4):414 (1979).	
		OHZUKU, T. et al., "Synthesis and Characterization of LiAl <sub>1/4</sub> Ni <sub>3/4</sub> O <sub>2</sub> (R3m) for Lithium-Ion (Shuttlecock) Batteries," J. Electrochem. Soc. 142(12):4033 (1995).	
		VAN OSS, C.J. et al., "Applications of Net Repulsive Van Der Waals Forces Between Different Particles, Macromolecules or Biological Cells in Liquids," Colloids and Surfaces 1:45 (1980).	
		VAN OSS, C.J. et al., "Comparison Between Antigen-Antibody Binding Energies and Interfacial Free Energies," Immunological Communications 6(4):341 (1977).	



<b>FORM PTO-1449/A and B (Modified)</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>				APPLICATION NO.: 10/021,740		ATTY. DOCKET NO.: M0925.70108US00	
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				GROUP ART UNIT: 1745		EXAMINER: John S. Maples	
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		VAN OSS, C.J. et al., "Repulsive Van Der Waals Forces. I. Complete Dissociation of Antigen-Antibody Complexes by Means of Negative Van Der Waals Forces," Immunological Communications 8(1):11 (1979).		
		VAN OSS, C.J. et al., "Repulsive Van Der Waals Forces. II Mechanism of Hydrophobic Chromatography," Separation Science and Technology 14(4):305 (1979).		
		WANG, C. et al., "All Solid-State Li/Li <sub>x</sub> MnO <sub>2</sub> Polymer Battery Using Ceramic Modified Polymer Electrolytes," J. Electrochemical Soc. 149(8):A967 (2002).		
		Ep. App. No. 01 988 312.3 - 2119, "Communication pursuant to Article 96(2) EPC," mailed 3/9/2005		

EXAMINER:	DATE CONSIDERED:
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#EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

\*a copy of this reference is not provided as it was previously cited by or submitted to the office in a prior application, Serial No. \_\_, filed \_\_, and relied upon for an earlier filing date under 35 U.S.C. 120 (continuation, continuation-in-part, and divisional applications).

[NOTE - The Office hereby waives the requirement under 37 CFR 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003 and for all international applications that have entered the national stage under 35 USC 371 after June 30, 2003. See 37 CFR 1.491(b). For all patent applications filed on or before June 30, 2003, copies of cited U.S. patents and patent application publications are still required unless an eIDS is filed. Copies of all other patent(s), publication(s), or other information listed must still be provided, even if it was previously submitted to, or cited by, the U.S. Patent Office in an earlier application, unless the earlier application is identified by the IDS and is relied upon for an earlier filing date under 35 U.S.C. §120, and the copy was provided in the earlier application.]